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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,494	11/16/2000	Kazuyoshi Ichihara	P06939US00/L	6010

881 7590 11/04/2003

LARSON & TAYLOR, PLC
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SUITE 900
ALEXANDRIA, VA 22314

EXAMINER

ZUCKER, PAUL A

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 11/04/2003

22

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/700,494

Applicant(s)

ICHIHARA ET AL.

Examiner

Paul A. Zucker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 August 2003 has been entered.

Current Status

2. This action is responsive to Applicants' Response and declaration of 21 August 2003 in Paper No 21.
3. Receipt and entry of Applicants' remarks and declaration is acknowledged.
4. Claims 1-4 remain pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baer (Fluoro Alcohols, Industrial and Engineering Chemistry, 51(7), July, 1959, pages 929-930) in view of Yonemitsu et al (US 3,678,107 07-1972).

The present invention, in brief, describes a process for oxidizing the precursor fluoroalkyl alcohol to the corresponding fluoroalkyl carboxylic acid with nitric acid while feeding oxygen into the system.

Baer teaches (Page 829, third column, last paragraph) that fluoro alcohols can be oxidized to the corresponding acids by nitric acid.

The difference between the instantly claimed invention and that taught by Baer is that the instant process uses oxygen to reduce the amounts of nitric acid required.

Yonemitsu however, teaches (Column 1, lines 55-59) the oxidation of ethylene glycol in the presence of nitric acid and molecular oxygen to produce oxalic acid.

Yonemitsu teaches (Column 2, lines 50-59) that the process can be carried out as a continuous process with no substantial loss of nitric acid during the reaction. The reason is believed (Abstract) to be that nitrogen oxide gases generated in the process are oxidized to nitric acid by oxygen during the reaction. Yonemitsu further teaches (Column 3, lines 4-9) using a vanadium compound as an oxidation catalyst.

One would have been motivated to apply the oxidation process of Yonemitsu to any nitric acid oxidation of alcohols, including the oxidation of fluoro alcohols to the corresponding acids because Yonemitsu teaches (Column 1, lines 27-49) that use of oxygen eliminates need for use of a nitric acid regeneration system. Because of the general nature of nitric acid oxidations of alcohols there would have been a reasonable expectation of success. The instantly claimed process would therefore have been obvious to one of ordinary skill in the art.

Examiner's Response to Applicants' Remarks with Regard to This Rejection

6. Applicants argue (Remarks, page 3, lines 1-22) that the claimed invention is not obvious over Baer and Yonemitsu because Baer (the Examiner assumes Yonemitsu is intended) fails to teach the addition of oxygen other than at the beginning of the reaction. The Examiner agrees with Applicants' characterization of the difference between the instant invention and that taught by Baer and Yonemitsu. Applicants, however, are arguing limitations that are not in the claims. In particular, claim 1 recites "feeding oxygen into the reaction system during the oxidation reaction" in lines 4-5. This language does not exclude the introduction of oxygen before, or simultaneously with, the start of the reaction. The claims are therefore not distinguished over the process taught by Baer And Yonemitsu.

Applicant's arguments filed 21 August 2003 have been fully considered but they are not persuasive for the reasons set forth above.

Declaration

7. The declaration under 37 CFR 1.132 filed 21 August 2003 is insufficient to overcome the rejection of claims 1-4 under 35 U.S.C. 103(a) based upon Baer (Fluoro Alcohols, Industrial and Engineering Chemistry, 51(7), July, 1959, pages 929-930) and Yonemitsu et al (US 3,678,107 07-1972) as set forth in the last Office action because: The declaration does not present a true side-by-side comparison in which both the process of the prior art and that of the invention are set forth with the only

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difference between the two corresponding to the novel feature of the claimed process.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Conclusion

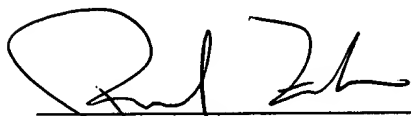
8. Claims 1-4 are pending. Claims 1-4 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Zucker whose telephone number is 703-306-0512. The examiner can normally be reached on Monday-Friday 7:00-3:30.

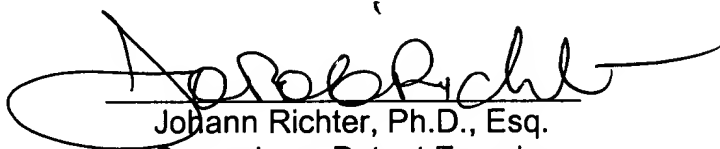
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 703-308-4532. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

A handwritten signature in black ink, appearing to read 'Paul Zucker', written over a horizontal line.

Paul A. Zucker, Ph.D.
Patent Examiner
Technology Center 1600

A handwritten signature in black ink, appearing to read 'Johann Richter', written over a horizontal line.

Johann Richter, Ph.D., Esq.
Supervisory Patent Examiner
Technology Center 1600